RESPONSES BY THE GAS COMPANY, LLC
TO INFORMATION REQUESTS
BY THE DIVISION OF CONSUMER ADVOCACY

CA-SOP-IR-61 Ref: TGC Preliminary SOP, Section II, Summary, page 2, paragraph 2.

Please explain why if the DG facility was sited on the user's property and designed and used only to meet the electric needs of that user or property must the DG facility be deemed non-utility in nature, even though the facility were owned by the electric utility.

TGC Response: TGC believes that DG facilities sited on a user's property for that user's benefit should not be subject to regulatory ratemaking treatment. In the case where an electric utility desires to own such a DG facility, TGC believes that the electric utility having market power should do so only through a non-regulated subsidiary or affiliate. For regulatory purposes, any costs and expenses incurred for such a facility would not be subject to cost recovery or earnings through utility rates.

CA-SOP-IR-62 Ref: TGC Preliminary SOP, Section II. Summary, page 3, paragraph 1, lines 1 through5.

a. Please provide a further explanation of how and why installations classified as non-regulated would level the playing field for all potential competitors and neutralize an electric utility's natural market power to encourage a more competitive market.

b. Provide explain what is meant by "if warranted by market power." Provide all criteria that would determine when market power would allow the electric utilities to compete via separately capitalized and separately staff-regulated affiliate.

TGC Response:

a. TGC does not believe that the DG installations described in its Preliminary Statement of Position should be subject to regulatory ratemaking treatment, i.e., the use of regulated rates to secure cost recovery and potential rate of return from the user as well as other ratepayers. The use of utility rates to ensure cost recovery for these DG installations, as well as potential earnings, from a regulated customer base gives the electric utility a regulatory shelter and financial advantage that is not available to other businesses that offer distributed generation services and equipment. Johnson Controls, Inc. in its Preliminary Position Statement, pages 6-8, also provides further explanations.

TGC believes that regulatory ratemaking treatment has been primarily designed for a "natural" monopoly operation where large capital expenditures are not uncommon. However, the same treatment in a market where competition is present can provide distinct advantages to the electric utilities that are not available to its competitors, thereby creating an anticompetitive environment. TGC believes that avoiding any regulatory "umbrella" on these DG installations would enable the electric utility, via a non-regulated subsidiary or affiliate, and competitors to compete on a more level playing field.

b. TGC believes that if an electric utility has sufficient market power to the extent that it would discourage a competitive environment for distributed generation installations, the utility should be allowed to compete only via a separately capitalized and separately staffed non-regulated affiliate. The Herfindahl-Hirschman Index (HHI), used by the U.S. Department of Justice, the Federal Trade Commission, and state attorneys general to measure market concentration for the purposes of antitrust enforcement, was discussed in Docket No. 96-0493 regarding Electric Competition and might be used as first cut measure for determining market power.

The HHI of a market is calculated by summing the squares of the percentage market shares held by the respective firms. For

example, an industry consisting of two firms with market shares of 70% and 30% has an HHI of 70^2+30^2, or 5800. The Department of Justice in its 1992 Horizontal Merger Guidelines generally will regard a market with a HHI below 1000 and “unconcentrated,” between 1000 and 1800 as “"moderately concentrated," and above 1800 as "highly concentrated."

TGC is interested in what other parties in this proceeding may consider to be a reasonable guide(s) for determining market power of an electric utility.

CA-SOP-IR-63 Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 3, paragraph 1, lines 4 through 6

TGC states that it believes that user-sited DG installations would be deemed non-utility and not part of the regulated electric utility business. Please explain what how it would work and include all of the mechanisms that would need to be established to allow for the proposal as suggested by TGC.

TGC Response: TGC believes that user-sited DG installations should continue to be treated in a manner similar to their present treatment with the exception that ownership of a DG installation by an electric utility would be via a separately capitalized and separately staffed non-regulated affiliate. The installations must continue to meet all permitting, safety and legal requirements as well as Commission-approved standards (see TGC response to CA-SOP-IR-72).

TGC also believes that more realistic pricing signals are needed for ratepayers. That is, rate design issues should be addressed, in particular, the fact that rates for large commercial customers are higher than the utility's average embedded costs or providing service to such customers, as well as higher than the utility's marginal costs. (See HECO Companies' Preliminary Statement of Position, Exhibit A, page 31.) The effect of mixing non-cost-of-service-based rates in cost evaluations that include the use of DG installed cost data and O&M data will likely produce misleading results and less than optimal decision-making by the

customer, energy service companies, and the utilities. TGC sees a fundamental problem in that the electric rates for commercial and large power service are distorted, thereby creating an artificial demand for "uneconomic CHP." Please see TGC's response to HECO-TGC-IR-1.

CA-SOP-IR-64 Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph 1, lines 3 through 4

a. Please provide copies of information, studies or analyses relied upon by TGC to support the recommendation that any ownership or operation by electric utilities of small, user-sited DG should be structured to mitigate such market power. Provide specific examples of how the DG market would be structured to mitigate "such market power."

b. Explain how a user-sited DG should be structured and provide examples of a separately capitalized, separately staffed non-regulated affiliate DG project.

TGC Response:

a. There is no question but that the investor-owned electric utilities in Hawaii (IOUs) possess overwhelming market power in the statewide market for electric service. In the first quarter 2004 issue of *Hoa Hana,* at p. 9, the IOUs indicate that they provide 93% of Hawaii's electricity, presumably excluding Kauai. TGC has requested the HECO companies to provide any other market penetration studies they may have performed as to their owned or contracted shares of the electricity markets on the islands where they do business.

The following discussion of the implications of this market power is drawn and adapted from the Final Statement of Position

of the Department of Defense in Docket No. 96-0496, which is one of the analyses relied on by TGC.

The Department of Justice and Federal Trade Commission use the Herfindahl-Hirschman Index (HHI) to measure market concentration and to assess the degree of market power potentially wielded by a market participant. The HHI is calculated by summing the squares of the individual market shares of all market participants. Under this approach, a pure monopoly would exhibit the maximum HHI of 10,000, or 100 squared. A hypothetical market having 4 firms of equal size or market penetration would have an HHI of 2,500 (4 x 25 squared (625)=2,500). The Hawaii IOUs have an HHI of 8,649, using the entire state as the electricity market. In fact, however, the Hawaii IOUs have an HHI approaching 10,000 in the discrete island markets where each does business-- the sole exception is competition from on-site generation that is not owned by or contracted to the utility. (p. 45).

The DOJ/FTC Guidelines apply the following standards to HHI calculations to determine whether a market is excessively concentrated. If the HHI is below 1,000, the DOJ regards the market to be unconcentrated, with little or no potential for a single firm to exercise undue market power. If the HHI is between 1,000 and 1,800, the DOJ considers this market to be moderately concentrated, with some potential for the exercise of market power

and the possibility of significant threats to competition. If the HHI is above 1,800, the DOJ regards the market to be highly concentrated and in need of measures to ameliorate market power. The Federal Energy Regulatory Commission uses this DOJ/FTC HHI analysis to review market concentration in the electric generation sector. Using this analysis, under the best of conditions Hawaii's electric markets, with HHIs of 8,649-10,000, fall into this last category.

To TGC, the exceedingly high concentration in electric generation markets in Hawaii suggests that the Commission should not allow the IOUs to enter new generation markets where their presence is likely to reduce or eliminate competition.

Hawaii's IOUs also possess vertical market power, which can potentially enable them to use their monopoly franchise functions to further their activities as power merchants, thereby driving out emerging competitors in the provision of electric service. A common remedy to vertical market power adopted in other states is to require functional separation between the monopoly functions of the incumbent electric utility—that is, requiring the utility to separate and create a "Chinese Wall" around its employees that engage in sales in non-monopoly ventures, such as nontraditional electric generation. However, without a strong set of rules prohibiting the utility from allowing access to

competitive information or granting special advantages to its internal divisions that are engaged in the non-monopoly functions, and vigorous enforcement of those rules by regulators, both the other customers and the competitors of the electric utility can suffer. Such a set of rules was adopted by the California PUC in Decision No. 97-12-088, dated December 16, 1997 and is summarized at p. 24 of the DOD FSOP.

DOD stated, "it must be recognized that functional [separation] is a behavioral remedy for market power that is not likely to create the proverbial level playing field among firms in the competitive sectors of the electric industry. Despite the best intentions of regulators, it is clear that the continuation of common ownership ties will provide the functionally [separated] monopoly operations of the incumbent utilities a strong incentive to grant preferential treatment to the competitive operations of their own companies. Therefore, the success of functional separation depends on the ability of regulators to adequately regulate against anti-competitive conduct by the incumbent utilities' various business segments. .... An intermediate measure between functional and structural [separation] is to require incumbents to separate their competitive and monopoly functions into distinct, affiliated operating companies. These affiliates would then be required to operate under an affiliate code of conduct that is similar

to the code that would apply to functionally [separated] utility operations. Some analysts believe that this additional level of utility separation provides more protection against vertical market power abuses. However, this approach does not eliminate the common ownership between competitive and monopoly affiliated operations. Therefore, regulators must effectively prevent anti-competitive affiliate abuses to ensure the success of this strategy." (pp. 25-26).

TGC believes that if the Hawaii IOUs are to be allowed to enter the business of furnishing user-site DG at all, it must be through a separately capitalized, separately staffed affiliate governed by well-enforced rules and codes of conduct.

According to DOD, the development of a competitive generation market in Hawaii requires that existing utility market shares be reduced to a point that will preclude the incumbent electric utilities from exercising horizontal market power. (p. 43). DOD commented that such reduction is best accomplished in Hawaii by minimizing new capital investment by the electric utilities in supply side resources, and facilitating the entry of new market participants, such as energy service companies, non-utility generators, independent power producers, and others to own new or replacement generation.

Based on the foregoing type of analysis, TGC believes that Hawaii IOUs should not be allowed to enter the market to own customer-site DG because to do so would increase the already extremely high statewide and individual island HHIs and lead to an even more intense concentration of market power in the hands of the incumbent IOUs. Moreover, allowing the Hawaii IOUs to move into the business of ownership of generation located behind the meter on a widespread, programmatic, basis would increase their already substantial vertical market power and eliminate what DOD described as "a natural degree of competition to the incumbent utility." (p. 133).

b. Behind-the-fence DG can be structured in a number of different ways that are subject to negotiation between the energy service company or developer and the customer that will be using the energy, and can adapt the transaction to their specific concerns. In behind-the-fence CHP projects, among the issues subject to negotiation between the two parties are: facility ownership; choice of fuel and fuel cost responsibility; responsibility for installation costs, insurance, permits and operating expenses; pricing; billing; method of investment payback if the developer invests in the project (e.g., straight share–the-savings for a period of years, minimum annual savings with a different percentage sharing beyond that floor); length of any service contract; events that can

cause default or termination; purchase price of the equipment after developer payback; etc. In the case of the program of utility ownership of on-site CHP proposed by the HECO companies in Docket No. 03-0366, most of these topics are not subject to negotiation, but instead the utility dictates the structure and terms via its tariff and its standard CHP Agreement. See, e.g., Exhibit E in Docket No. 03-0366, pp. 14-33.

For a discussion of the structure of one user-sited CHP project that used an independent developer, see the prepared testimony of Orville Thompson of the Orchid at Mauna Lani and Michael DeMarsi of Hess Microgen on the standby rate issue in HELCO Docket No. 99-0207.

A local example of a separately capitalized, separately staffed, electric utility affiliate doing user-site DG projects is the SRS/Hess project at Pohai Nani Good Samaritan Care Center for Seniors in Kaneohe. At the time the entity that became Hess Microgen first came to Hawaii and began installing user-site CHP, it was a non-utility affiliate of a North Carolina electric utility, Carolina Power & Light.

TGC notes that many electric utilities that form non-utility affiliates to enter the business of providing on-site customer generation choose to do so only in areas outside the franchised territory of their parent electric utility or holding company.

CA-SOP-IR-65 Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph 2, line 2.

TGC states that it believes that user-sited DG installations comprise one segment of Hawaii energy markets in which competition can be practicable. Please explain what "competition can be practicable" and provide examples of why TGC believes this statement.

TGC Response: TGC means "practicable" in the dictionary sense of "capable of being put into effect, sensible and worthwhile." On the mainland, behind-the-fence cogeneration has been a practicable and often practiced option for large, high load factor industrial customers having heating and/or cooling loads as a means to employ "self-help" when electric utility rates became too high, or they were asked to shoulder too much of the costs of providing electric service to utility residential and commercial classes. The self-generation option provides a natural check on high electric rates and incentivizes the utilities to contain their costs. Steel and aluminum companies, auto manufacturers, agricultural processors, glass, chemical, paper and textile producers, and many other mainland users have relied on user-site CHP since the early 1970's. More recently, mainland hospitals, universities, supermarkets and hotels have installed medium-sized, gas-powered on-site CHP.

In Hawaii, Pearl Harbor, the Tesoro and Chevron Refineries and other large power customers have installed customer-sited DG using large (over 5 MW) industrial-grade engines that have been in place since at least

1996 (see Response of HECO to PUC-IR-102 in Docket No. 96-0356, listing existing customer generation that would have been grandfathered under HECO's proposal to institute a Rider A standby charge). Now, with improvements in small automotive and marine-derivative generator technology and microturbines, competition from on-site generation has reached Pohai Nani and Fort Shafter on Oahu, Kauai Veterans Memorial Hospital and CEATECH on Kauai, Hilo Medical Center and the Fairmont/Orchid on the Big Island and the Kaanapali Ocean Resort and the Westin on Maui and others. These projects are not only practicable but in practice and providing worthwhile benefits to the users that have installed them. If the Commission should grant the application of the already dominant electric utilities to enter and thereby dominate the market for customer-site DG by owning and operating this generation at other ratepayer expense, third-party DG providers will no longer be able to compete. The market will become even more concentrated in the hands of electric utilities, and the only existing natural check (self-generation) on Hawaii utility rates will be eliminated.

CA-SOP-IR-66 Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph3, parts a and b.

a. Provide examples of why TGC believes that user-sited generation is not a traditional utility function and specify what other state commissions treat user-sited DG as non-utility and non-jurisdictional.

b. Cite examples of why user-sited DG on utility reliability is not different whether the DG is owned or operated by the utility.

TGC Response:

a. The installation of user-sited generation is not a traditional utility monopoly function for several reasons. The hallmark of a monopoly function is that fixed costs represent an unusually and disproportionately large portion of the costs of production, and there would be wasteful duplication in fixed costs if two or more firms tried to compete to serve the same market. In the case of franchised electric utility service, for example, the building of duplicative transmission and distribution lines would be economically wasteful (as well as aesthetically undesirable). Installation of transmission and distribution wires is a natural monopoly function that is accompanied by economies of scope and scale that inure to the benefit of all of the utility's customers. Traditionally utilities also installed large, centralized generation plants as part of their utility functions, on the theory that these plants could produce power at a lower cost per kWh than other,

reasonably available, means. For various reasons, including heat recovery technology and cross-subsidized rates, certain users are now able to secure energy services for their specific needs at a lower cost per kWh than offered by the utility. However, small generation facilities installed at a customer's site do not produce economies of scope or scale that all utility customers benefit from, and therefore does not need to be performed by monopoly utilities.

Second, generation located behind the meter, especially that designed not to deliver electricity back to the grid, is designed to benefit the individual user rather than the entire utility system. Indeed, "behind the meter," "inside the fence," and other expressions are typically used to designate where the responsibility of the utility for electrical apparatus ends and the responsibility of the customer begins. In Docket No. 03-0366, the electric utilities are proceeding not only behind the meter but onto the premises of the customer, installing not only small electric generators but also HVAC facilities, including cooling and heating equipment, controls, fuel tanks, and other non-utility and non-electric apparatus that is designed to benefit the individual user rather than the system as a whole and proposing to do so at other electric ratepayer expense. The installation and ownership of electrical equipment on an individual user's site for the benefit of that particular customer (especially given that that particular customer

may already be receiving full electrical service from CG) is not a traditional utility function. Moreover, the installation and ownership, or effective financing (through the facilities charge) of individual customer controls, cooling tower, HVAC and other equipment is not even an electrical function, let alone a utility function.

Many states have statutes that define "electric utility" or "public utility" in such as manner as to exempt self-generation or inside-the-fence generation that is entirely consumed by the host, or is distributed only to a narrow set of nearby users, without crossing public rights of way. See, e.g., Ark. Code 0f 1987 Ann. § 23-1-101(9)(c) (" The term 'public utility', as to any public utility defined in [subdivision (i), which includes furnishing of electricity to or for the public for compensation], shall not include any person or corporation who or which furnishes the service or commodity exclusively to himself or herself or itself, or to his or her or its employees or tenants, when the service or commodity is not resold or used by others."); Cal. Pub. Util. Code § 218 (2004); Idaho Code § 61-119 (2003) (electric utility definition exception applies where power is "distributed by the producer through private property and solely for his own use or the use of his tenants and not for sale to others ...[or for use in mining operations and several consumers own the transmission and distribution lines jointly for

use by themselfs without profit and located outside the limits of incorporated cities, towns, and villages); Kan. Stat. Ann. § 66-104(a) ("except for private use"); Nev. Atty. Gen. Op. 109 (2/7/1964) (a power generating company serving only one user under contract where both company and user were on private land was not a public utility under the jurisdiction of the public service commission); NM Stats. Ann § 62-3-4(A)(1) (2004); N.C. Gen Stat. § 62-3(23 a1; Ohio RC Ann. § 5727.02 (A) & (B) (2004); 66 Pa. Consol. Stats § 102 "Public Utility" (2)(i). In other jurisdictions case law has delineated the extent to which user-site generation is deemed to be non-utility and not subject to the jurisdiction of regulators. This is the case in Hawaii. See *In re Wind Power Pacific Investors-III,* 67 Haw. 342, 686 P.2d 831 (1984), construing HRS § 269-1. Set forth below is a non-comprehensive sampling of state court and PUC decisions treating user-sited generation as non-utility. *Cawker v. Meyer,* 147 Wis. 320, 133 NW 157 (1911) (office building owners who built a plant to furnish their own electricity and sold the excess to three neighbors were not public utilities subject to the jurisdiction of the state regulatory commission); *Public Serv. Comm. v. J. & J. Rogers Co.*, 184 App. Div. 705, 172 NYS 488 (1918) (a manufacturing corporation which also produced electricity was prohibited from delivering it across public ways but was allowed to

generate power for its own use and not for sale to others without becoming a jurisdictional "electric corporation"); *Detroit Medical Center*, Michigan PSC Case No. U-8930, Feb. 8, 1988, 1988 Mich. PSC Lexis 29 (self-service cogeneration providers are not public utilities); *In re Joint Petition for Jurisdictional Determination Order*, Case U 26054, ordered Dec. 19, 2001, 2001 La. PUC Lexis 283 (Energy America, LLC of Michigan and Orion Refining Corp. of Louisiana would not become public utilities subject to regulation by the La. Public Service Commission by virtue of their joint building of a cogeneration project at Orion's refinery near New Sarpy, La.); *accord*, *In re Joint Petition for Jurisdictional Determination as to Lake Charles Cogeneration Project*, Order No. U-26139, at pp. 2-3, ordered Dec. 19, 2001, 2001 La. PUC Lexis 284; U.S. Steel Corp. v. Northern Indiana Pub. Serv. Co., 482 N.E.2d 501, 185 Ind. App. Lexis 2769 (1985) (steel company with two adjacent plants, one in Illinois, one in Indiana, connected by company-owned wires on a private right of way did not become an Indiana public utility by virtue of "mixing" electricity from either plant with the other); *In re the Adoption and Promulgation by the Public Service Commission of Indiana of Rules and Regulations with Respect to Cogeneration and Alternate Energy Production Facilities Pursuant to Title II, Sections 201 and 210 of the Public Utilities Regulatory Policies Act of 1978, and Public*

Law 72 Enaced by the 102nd Indiana General Assembly (Public Law 72-1982), Cause No. 37494, p. 8, Oct. 5, 1984, 1984 Ind. PUC Lexis 197 ("This Commission agrees with the North Carolina Commission [in *Cogenatrix of North Carolina, Inc.,* Docket No. SP-100, Feb. 29, 1984 and published in Public Utilities Fortnightly on April 26, 1984 at p. 67] that a cogenerator is not a public utility.").

b. TGC believes that the reliability of a DG unit is a function of the unit characteristics and other external factors such as, but not limited to, the generation technology being used, quality control in the manufacturing and installation process, good engineering practices, number of start ups and shutdowns, hours of operation, proper maintenance, operation within the unit specifications, etc.

The quality of the equipment is not a function of ownership unless the owner is the manufacturer of the equipment. Recommendations and instructions concerning proper generating unit operation and maintenance are generally provided by the manufacturer and/or vendor and should be the same whether the unit is sold to an electric utility or a non-utility entity.

CA-SOP-IR-67 Ref: TGC Preliminary SOP, Section III. Planning Issues, question 2, page 4, paragraph 4, lines 1 and 2

a. Please explain further why TGC believes that if electric utilities are allowed to design, construct, install, own and/or operate user-site DG systems to their benefit and the benefit of their utility customers, that the regulatory agencies must considered the significant impacts on other utilities and utility customers under their jurisdiction.

b. What are the specific impacts that must be considered?

TGC Response:

a. If the electric utility is allowed to install a DG/CHP system that provides thermal energy that displaces heating load served by gas energy, the gas load to be served by the gas utility is reduced and the gas utility loses the portion of the rate normally charged to the customer to cover fixed costs. When that happens, those costs must be borne by other gas ratepayers when rates are adjusted at the next rate case. In the interim, the gas utility shareholders bear the loss. In effect, this becomes a means of converting gas load to electric utility sales with the associated conversion expenses by the electric utility to be paid by the electric utility's ratepayers.

The HECO Companies suggest in their Preliminary SOP, p. 17, that in their similar situation "If the utility owns and operates the DG system, the loss of fixed costs is substantially reduced and the overall program costs and payments can be structured so that

all parties (the utility, the customer, other ratepayers) are better off by having the project completed."

In Hawaii, fully allocated embedded cost-of-service studies are the starting point for the allocation of revenue requirements among rate classes. However, the rates for some classes (e.g., the residential class) have been set at a level that produces a lower-than-system average rate of return, while the rates for the remaining classes (e.g., commercial classes) produce a higher-than-system average rate of return as a result. This benefits the residential class, but only as long as large commercial customers do not leave the system because of rates that are higher due to the subsidy.

The loss of a significant amount of load from the TGC's system due to uneconomic bypass would have an immediate and significant impact on the magnitude of the TGC's revenues and a corresponding adverse impact on the remaining customers' rates. Rates would have to be set higher in future rate cases in order to allow for recovery of fixed costs that were previously recovered through energy sales to customers that subsequently add on-site generation facilities.

It is TGC's understanding that the Consumer Advocate has the statutory responsibility to represent, protect, and advance the interest of consumers of utility services.

b. Please see TGC's response to CA-SOP-IR-67a.

CA-SOP-IR-68 Ref: TGC Preliminary SOP, Section III. Planning Issues, question 3, page 5, paragraph 3, lines 4 and 5.

Please explain and give specific examples of the advertising of DSM measures and available rebates at other ratepayer expense.

TGC Response: Please see the Annual DSM Program Modification and Evaluation Reports and the Annual DSM Accomplishments and Surcharge Reports that the electric utilities have been filing for their respective DSM programs since their inception. These reports include program incentives, installations, budgeted and actual advertising/marketing costs, as well as descriptions of the utilities' marketing and advertising campaigns. While TGC does not have copies of all of these reports, these are publicly filed documents available to the Consumer Advocate and will enable the Consumer Advocate to determine the extent to which this advertising and program impacts have been at other ratepayer expense.

CA-SOP-IR-69 Ref: TGC Preliminary SOP, Section III. Planning Issues, question 3, page 6, paragraph 2b, lines 5 and 7.

What does TGC envision to be the applicable electric tariffs and regulations? Please provide samples of the specific tariffs and regulations.

TGC Response: TGC presumes the reference is to paragraph 3b rather than 2b. The "applicable electric tariff" refers to the schedule under which the user who has installed on-site CHP or other DG would take any necessary supplemental service. Which schedule(s) and/or rider(s) would be applicable to any individual customer would depend on (1) which island the user was located on, and (2) the size and characteristics of the supplemental load remaining to be purchased from the electric utility after the customer had made use of its on-site power production, and whether the individual customer would qualify under the eligibility criteria the electric utilities have set for that schedule or rider.

Applicable tariffs also include the HECO companies' Rule 14, governing interconnections. The "regulations" referred to in the PSOP are the utilities' internal rules for service, rather than regulations promulgated by the Commission.

CA-SOP-IR-70 Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 6, question 4, paragraph 1, line 3

Please identify the specific Commission-approved requirements that are being referenced in this paragraph of the SOP.

TGC Response: Please see TGC's response to CA-SOP-IR-72.

CA-SOP-IR-71 Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 6, question 5, paragraph 1, line 2

What supports TGC's belief that the impact will be generally limited to the user, other than the obvious which is that the system will serve the specific customer?

TGC Response: Please see TGC's response to CA-SOP-IR-72.

CA-SOP-IR-72 Ref: TGC Preliminary SOP, Section IV. Impact Issues, page 6, question 5, paragraph 1, lines 4 and 5.

a. Please identify the specific Commission requirements that are being referenced in this paragraph of the SOP.

b. Explain why each requirement will prevent potential power quality or reliability disturbances for the electric utility.

c. What specific actions need to be taken to ensure that **all** power quality or reliability disturbances are satisfactorily addressed?

d. Please explain negative power quality or reliability disturbance impacts be prevented?

TGC Response:

a. TGC anticipates that, as a result of this docket and possibly others, some form of Commission-approved standards concerning the various forms of DG installations will be implemented to protect the user's installation as well as the utility grid, if necessary, to supplement those currently in effect. For example, the Commission might develop interconnection and other appropriate standards concerning the installation and use of DG, or direct the electric utilities (possibly in conjunction with other parties) to develop appropriate standards for DG installations in accordance with the DG policies and framework from this docket.

At present TGC is only aware of the HECO Companies' Rule 14H concerning interconnection requirements for DG on their systems.

b. TGC believes that the HECO Companies' Rule 14H has addressed the utility concerns about power quality and reliability disturbances. However, TGC does not have the technical expertise in operating an electric grid to determine whether the provisions of Rule 14H will prevent all of these potential disturbances. If it is determined in this proceeding by other parties that the provisions of Rule 14 are insufficient, TGC would support the reasonable development of supplementary provisions.

c. Please see response to part b. above.

d. Please see responses to parts a. and b. above.

CA-SOP-IR-73 Ref: TGC Preliminary SOP, Section IV, Impact Issues, page 7, question 6, paragraph 1, lines 2 and 3

Please identify the specific costs, other than fuel, that are being referring to when TGC discusses a general reduction in variable operating costs?

TGC Response: This statement was made in the abstract; the type and degree of reductions in variable O&M other than fuel could vary depending on the size, type, and location of the individual installation. In general, the specific components of generation-related variable O&M are set forth in rate cases and include such items as lubricants, chemicals, water, and the like.

CA-SOP-IR-74 Ref: TGC Preliminary SOP, Section IV, Impact Issues, page 8, question 8, paragraph 1, line 1

TGC previously indicated in this SOP that fuel would be avoided and now TGC states that it takes no position on the issue of the potential for distributed generation to reduce the use of fossil fuel. Please explain the different positions.

TGC Response: TGC took no position on this issue at the time for several reasons. First, it is easier to quantify the increase in efficiency of user-sited diesel-fired CHP over diesel-fired CG, and the concomitant reduction in consumption of diesel fuel by the electric utility, because there is a more apples-to-apples comparison. TGC feels that this is a comparison more appropriately made by the electric utilities. TGC has no direct experience with diesel use by an on-site CHP customer, and no experience with the consumption of diesel by electric utility CG.

CA-SOP-IR-75 Ref: TGC Preliminary SOP, Section V. Implementation Issues, page 8, question 10, paragraph 2, lines 1 through 3

What specific rates and riders does TGC believe should be authorized for DG installations? Explain how these rates and rider would be determined and the specific costs that each rate or rider would be expected to recover.

TGC Response: TGC believes that Hawaii investor-owned IOUs should not be allowed to install, own and operate user-sited DG. Accordingly, because "authorized rates and riders" presumes that a utility should be owning and operating DG, TGC firmly believes that no rates and riders should be authorized or are necessary.

TGC does believe that a move to class cost of service rates is needed to provide proper cost signals and eliminate the artificial demand for user-sited DG. Please also see TGC's response to CA-SOP-IR-63.